In the Claims:

For convenience, a complete set of pending claims is shown below.

1. (Previously presented) An analytical cell for detection of an analyte, comprising:
an elongate lightguide;
an array of conduits extending though the lightguide, wherein the conduits are configured to support a migration medium;
and wherein the lightguide and its surrounding medium have refractive indices selected such that light entering the lightguide is internally reflected within the lightguide to illuminate the conduits.

2. (Previously presented) The cell of claim 1, wherein the longitudinal axes of the conduits in the array are substantially parallel and coplanar.

3. (Previously presented) The cell of claim 1, wherein the lightguide comprises a first wall with a first interior surface and a second wall with a second interior surface, wherein the second wall is opposite the first wall, and the first interior surface is opposite the second interior surface.

4. (Previously presented) The cell of claim 3, further comprising a reflective third interior surface.

5. (Previously presented) The cell of claim 4, wherein the third interior surface is a mirror.

6. (Previously presented) The cell of claim 1, wherein the conduits have a substantially circular cross section.

7. (Previously presented) The cell of claim 1, wherein the conduits have a substantially square cross section.

8. (Previously presented) The cell of claim 1, wherein the conduits are capillary tubes.

9. (Previously presented) The cell of claim 1, wherein the lightguide is a solid.

10. (Previously presented) The cell of claim 1, wherein the lightguide is glass.

11. (Previously presented) The cell of claim 10, wherein the glass is selected from the group consisting of fused silica and borosilicate.

12. (Previously presented) The cell of claim 1, wherein the light enters the lightguide in a direction substantially coplanar with and normal to the longitudinal axes of the conduits.

13. (Previously presented) The cell of claim 1, wherein the lightguide has a higher refractive index than the surrounding medium.

14. (Previously presented) An analytical cell comprising a cover on a substrate, wherein the substrate comprises an array of substantially parallel grooves, wherein the grooves are substantially coplanar and are configured to support a migration medium; wherein the migration medium, the substrate, the cover and the surrounding medium have refractive indices selected such that a lightguide is formed when the cover is placed on the substrate, and light entering the lightguide is totally internally reflected within the lightguide to illuminate the grooves.

15. (Previously presented) The cell of claim 14, wherein the grooves have a substantially circular cross sectional shape.

16. (Previously presented) The cell of claim 14, wherein the grooves have a substantially square cross sectional shape.

17. (Previously presented) The cell of claim 14, wherein at least one of the substrate and the cover further comprise a reflective surface to reflect light entering the lightguide from a direction normal to the grooves.

18. (Previously presented) An analytical device, comprising:

(a) an elongate lightguide comprising:

(1) a substrate comprising an array of substantially parallel grooves configured to support a migration medium, wherein the grooves are substantially coplanar and have a longitudinal axis in a first direction, and

(2) a cover on the substrate; and,

(b) a light source outside the lightguide, wherein the source emits a light beam with an optical axis substantially coplanar with and normal to the longitudinal axes of the grooves, wherein the migration medium, the substrate, the cover and a medium surrounding the substrate have refractive indices selected such that light emitted by the light source is totally internally reflected within the lightguide to illuminate the grooves.

19. (Previously presented) The device of claim 18, further comprising a detector optically coupled with the lightguide.

20. (Previously presented) The device of claim 18, wherein the light beam is decollimated.

21. (Previously presented) The device of claim 20, wherein the beam diverges in a direction normal to a plane containing the grooves.

22. (Previously presented) The device of claim 21, wherein the beam has a divergence half angle of at least about 20° in a direction normal to a plane containing the grooves.

23. (Previously presented) The device of claim 21, wherein the beam has a spread of no more than about 1° in a plane parallel to a plane containing the grooves.

24. (Previously presented) The device of claim 18, wherein the substrate is a solid.

25. (Previously presented) The device of claim 18, wherein the substrate comprises a reflective interior surface to reflect the light emitted by the source back into the lightguide.

26. (Previously presented) The device of claim 18, wherein the substrate is a glass selected from the group consisting of fused silica and borosilicate.

27. (Previously presented) The device of claim 18, wherein the substrate and the cover comprise a polymeric material.

28. (Previously presented) The device of claim 18, further comprising a second light source, wherein the second light source emits a second light beam having a second optical axis substantially collinear with the optical axis of the light emitted from the light source, such that the first light beam and the second light beam illuminate the grooves from opposite directions.

29. (Previously presented) An assay method comprising:

(a) providing an analytical cell comprising: (1) a substrate comprising a plurality of substantially parallel grooves, wherein the grooves are substantially coplanar, are configured to support a migration medium, and have longitudinal axes in a first direction, and (2) a cover on the substrate; wherein the migration medium, the substrate, the cover and a medium surrounding the substrate have refractive indices selected such that a lightguide is formed when the cover is placed on the substrate, and light entering the lightguide is internally reflected within the lightguide to illuminate the grooves;

(b) placing a sample on the migration medium in a groove, wherein the sample comprises a fluorescently labeled analyte;

(c) applying an electric field across the first direction to move the analyte in the groove;

(d) illuminating the lightguide with a light beam having an optical axis along a second direction substantially coplanar with the plane of the grooves and normal to the first direction, wherein the light entering the lightguide is totally internally reflected within the lightguide to illuminate at least a portion of each groove; and

(e) detecting an emission from the analyte.

30. (Previously presented) An analytical cell comprising:

(a) a solid lightguide comprising

(1) a first wall with a first interior surface, a second wall with a second interior surface, wherein the second wall is opposite the first wall, and the second interior surface faces the first interior surface,

(2) a third wall with a third interior surface, and a fourth wall opposite the third wall, and

(3) a surrounding medium adjacent at least one of the walls;

(b) a plurality of capillaries configured to support a migration medium, wherein the capillaries are fixed in an array at least partially enclosed within the lightguide, wherein the longitudinal axes of the capillaries are substantially parallel and coplanar, and wherein the migration medium, the capillaries, the lightguide and the surrounding medium have refractive indices selected such that light entering the lightguide is internally reflected within the lightguide at the interior surfaces to illuminate the capillaries.

31. (Previously presented) The cell of claim 30, wherein the first and second wall are substantially planar.

32. (Previously presented) The cell of claim 30, wherein the third and fourth walls are substantially planar.

33. (Previously presented) The cell of claim 30, wherein the first and second walls are substantially parallel to each other.

34. (Previously presented) The cell of claim 30, wherein the third and fourth walls are substantially parallel to each other.

35. (Previously presented) The cell of claim 30, wherein the third and fourth walls are substantially normal to the first and second walls.

36. (Previously presented) The cell of claim 30, wherein the capillaries have a substantially circular cross sectional shape.

37. (Previously presented) The cell of claim 30, wherein the capillaries comprise a glass selected from the group consisting of fused silica and borosilicate.

38. (Previously presented) The cell of claim 30, wherein the lightguide comprises a material selected from the group consisting of polymethylmethacrylate and polymethylpentene.

39. (Previously presented) The cell of claim 30, wherein the third interior surface is a mirror.

40. (Previously presented) An analytical cell comprising a lightguide, wherein the lightguide comprises:

(1) a substrate comprising a plurality of substantially parallel grooves, wherein the grooves are substantially coplanar and have a substantially arcuate cross section;

(2) a cover comprising an array of substantially parallel grooves corresponding to the grooves in the substrate, wherein the grooves in the cover are substantially coplanar and have a substantially arcuate cross section; and

(3) a plurality of capillaries in the grooves between the substrate and the cover, wherein the capillaries have a substantially circular cross section, and the longitudinal axes of the capillaries extend in a first direction to form a substantially coplanar array, and wherein the capillaries are configured to support a migration medium;

wherein the migration medium, the capillaries, the substrate, the cover and a medium bordering the substrate have refractive indices selected light entering the lightguide from a second direction substantially coplanar with and normal to the first direction is totally internally reflected within the lightguide to illuminate the array.

41. (Previously presented) The cell of claim 40, wherein at least one of the substrate and the cover further comprise a reflective surface to reflect light entering the lightguide from the second direction.

42. (Previously presented) An analytical device, comprising:

(a) a lightguide comprising (1) a substrate comprising a plurality of substantially parallel grooves, wherein the grooves are substantially coplanar and have a substantially arcuate cross section, (2) a cover comprising a plurality of substantially parallel grooves corresponding to the grooves in the substrate, wherein the grooves in the cover are substantially coplanar and have a substantially arcuate cross section;

(b) a plurality of capillaries in the grooves between the substrate and the cover, wherein the capillaries have a substantially circular cross section, and the longitudinal axes of the capillaries extend in a first direction to form a substantially coplanar array, and wherein the capillaries are configured to support a migration medium;

(c) a light source outside the lightguide, wherein the light source emits a beam having an optical axis substantially coplanar with and normal to the longitudinal axes of the capillaries in the array;

wherein the migration medium, the capillaries, the substrate, the cover and a medium bordering the substrate have refractive indices selected such that light emitted by the light source is totally internally reflected within the lightguide to illuminate the array.

43. (Previously presented) The device of claim 42, wherein the medium further comprises a detector.

44. (Previously presented) An assay method comprising:

(1) providing an analytical cell comprising:

(a) a lightguide comprising (1) a substrate comprising a plurality of substantially parallel grooves, wherein the grooves are substantially coplanar and have a substantially arcuate cross section, (2) a cover comprising a plurality of substantially parallel grooves corresponding to the grooves in the substrate, wherein the grooves in the cover are substantially coplanar and have a substantially arcuate cross section;

(b) a plurality of capillaries in the grooves between the substrate and the cover, wherein the capillaries have a substantially circular cross section, and the longitudinal axes of the

capillaries extend in a first direction to form a substantially coplanar array, and wherein the capillaries are configured to support a migration medium;

(2) placing a sample on the migration medium in each capillary in the array, wherein the sample comprises a fluorescently labeled analyte;

(3) applying an electric field across the first direction to move the analyte in a capillary in the array;

(4) illuminating the lightguide with a light beam having an optical axis along a second direction substantially coplanar with the plane of the array and normal to the first direction, wherein the light entering the lightguide is totally internally reflected within the lightguide to illuminate at least a portion of the array;

(5) detecting with a detector an emission from the analyte.

45. (Previously presented) An analyte separation device for the detection of one or more fluorescently labeled analytes, comprising:

(a) an elongate lightguide;

(b) an array of conduits in the lightguide, wherein the conduits are configured to support a migration medium;

(c) a light source optically coupled to the lightguide, wherein the lightguide has a refractive index greater than its surrounding medium such that light emitted by the source is totally internally reflected within the lightguide to illuminate the conduits; and

(d) a detector optically coupled to the conduits.